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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/662,751 | 09/15/2003 | James D. Goss | 67397-036 PUS1 | 1549 |
| 54549 7590 08/02/2007 CARLSON, GASKEY & OLDS/PRATT & WHITNEY 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009 | | | EXAMINER KRAUSE, JUSTIN MITCHELL | |
| | | | ART UNIT 3682 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/662,751

Applicant(s)

GOSS ET AL.

Examiner

Justin Krause

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8,10-16,26,28,29 and 32-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8,10-16, 26, 28, 29, 32-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 18, 2007 has been entered.

Drawings

The drawings are objected to because the figures are inconsistent with each other. The cross hatching in sectional drawing figure 6 is not consistent with the illustrated view of figure 2. For example, Figure 2 shows 2 shoulder portions, one on each cup being integral with the cup, figure 6 shows one shoulder (66') not integral to either cup. Figure 6 shows the shim outside the spring, figure 2 shows the shim inside the spring. The area between the cups in figure 6 is confusing and unclear. All cross hatching should be corrected to reflect the disclosed arrangement.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the arrangement wherein the generally planar spring is a Belleville washer, and the arrangement wherein the generally planar spring is a Belleville spring must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Belleville washer is not disclosed within the specification.

Claim Objections

Claim 39 objected to under 37 CFR 1.75 as being a substantial duplicate of claim 37. Claim 42 objected to under 37 CFR 1.75 as being a substantial duplicate of claim 40. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). It is unclear what applicant regards as the distinction between a Belleville washer and a Belleville spring. Applicant should provide evidentiary support for what is regarded as the difference between the elements.

Claim 29 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 29 adds a functional recitation of what the device is intended to do without further limiting the structure of the device claimed in claim 26.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 13-15, 26, 28-29, and 32-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is not understood from the disclosure how the generally planar spring compresses into a wave shape. As shown in the drawings, the spring has one flat side, and the opposite side has protrusions. The flat side rests against a flat shoulder. When two flat surfaces are resting against each other, it is not understood how compression creates a wave shape. It would seem as if the spring would serve as a spacer, and not form a wave shape, as the flat surfaces would not deflect with respect to each other.

Additionally, there is no disclosure for the use of a "Belleville washer". It is unknown at the time of invention whether applicant possessed the knowledge to use a Belleville washer as the generally planar spring.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11, 14, 15, 29, 38 and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 3682

The term "cylindrical beam spring" does not appear to be a term used in the art and the specification fails to make clear what the definition of term is. The scope of the claim cannot be determined, as the limitation is undefined.

In claim 11, the phrase "the teeth may partially rotate" renders the scope of the claim unclear as it cannot be determined if the teeth partially rotate or not.

Claims 14 and 15 recite the limitation "the generally planar spring". There is insufficient antecedent basis for this limitation in the claim.

In claim 29, the scope of the term "essentially prevented" is unclear. It seems as if the rotation is prevented, or rotation is allowed to occur.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8, 10-16, 26, 28-29, and 32-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Baninger (US Patent 1,851,561).

Baninger discloses a bearing assembly comprising:

-a first bearing having first inner race (68) and a first outer race (80)

Art Unit: 3682

- a first bearing cup (84) disposed at least partially around the first bearing and secured to the first outer race, including a tang (90) and a plurality of teeth (88)

- a plurality of first rolling elements disposed between the first inner and outer races (76)

- a second inner race (70) and a second outer race (82)

- a second bearing cup (86) mounted at least partially about the second outer race secured to the second outer race and including a plurality of teeth and slots (88)

- a second plurality of rolling elements (78) disposed between the second inner and outer races

- the first bearing cup and second bearing cup interlock, such that the first bearing cup allows only a predetermined limited amount of rotational movement of the second bearing cup, while allowing a predetermined degree of axial movement (page 2 lines 45-55).

The bearing assembly further comprises a generally planar spring (100, 102) in contact with both the first and second bearing cup.

The first bearing cup includes a plurality of circumferentially arranged slots around a perimeter portion for engaging with the teeth of the second bearing cup and visa versa.

The bearing cups include shoulders (96) extending radially inward from an inner surface, the shoulders abut the outer races.

Regarding claim 11, the slots are larger than the teeth, to permit the slots and teeth to interlock with each other.

Regarding claim 15, a shim (72) is disposed between the inner races.

Regarding claim 16, the bearings are secured to the cups by interference fit.

Regarding claim 29, predetermined rotational movement is essentially prevented.

Regarding claim 32, the rolling elements comprise balls.

Regarding claims 37-42, as best understood, the spring of Banninger satisfies the limitations of Belleville washer, Belleville spring and cylindrical beam spring. The spring is cylindrical and has a width, forming a beam, and the spring is a Belleville washer, which is a Belleville spring.

Conclusion

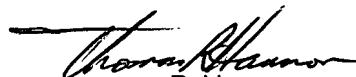
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Krause whose telephone number is 571-272-3012. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3682

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jdk
7/30/07
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Thomas R. Hannon
Primary Examiner